

**ABSTRACT**

A method for detecting one or more target bacteria in a raw sample where: 1) bacteriophage(s) specific to each target bacterium are added to the raw sample, 2) the test sample is incubated, and 3) the test sample is tested for the presence of each phage in sufficient numbers to indicate the presence of the associated target bacteria in the raw sample. In one embodiment, each phage is initially added to the raw sample in concentrations below the detection limit of the final phage detection process. In another embodiment, the parent phages are tagged in such a way that they can be separated from the progeny phage prior to the detection process.

Preferred phage detection processes are immunoassay methods utilizing antibodies that bind specifically to each phage. Antibodies can be used that bind to the protein capsid of the phage. Alternatively, the phage can be dissociated after the incubation process and the sample tested for the presence of individual capsid proteins or phage nucleic acids. The invention can be used to test target bacteria for antibiotic resistance.